

REMARKS

The Applicants thank the Examiner for the thorough examination of the application. The specification has been amended to correct minor errors. No new matter is believed to be added to the application by this Amendment.

Status of the Claims

Claims 1-22 are pending in the application. Claims 7, 8, 11, 17 have been amended to improve their language without reducing their scope. The claim amendments are not directed at overcoming the prior art rejections.

Claim Objections

Claims 7, 8, 11 and 17 are objected to as containing informalities. The Examiner's comments have been considered. Claims 7, 8, 11 and 17 have been amended to remove any informalities.

Rejections Based Upon Henley '754

Claims 1, 3, 9, 10, 13 and 14 are rejected under 35 U.S.C. 103(a) as being obvious over Henley '754 (U.S. Patent No. 5,073,754) in view of Field '653 (U.S. Patent No. 6,323,653). The Examiner adds the teaching of Henley '150 (U.S. Patent No. 5,285,150) to the aforesaid rejection to reject claims 2, 6, 11, 12, 17 and 18 for obviousness under 35 U.S.C. 103(a). Claims 5 and 15-16 are also

rejected under 35 U.S.C. 103(a) as being unpatentable over Henley '754 in view of Field '653. Applicants respectfully traverse.

The Present Invention and Its Advantages

The present invention pertains to an inspection method and apparatus for a flat display device where a magnetic sensor scans signal wires along a scan direction crossing the signal wires. The invention measures current induced in a magnetic sensor. As a result, the invention rapidly and exactly accomplishes the finding of defects such as a short circuit or an open circuit in a signal wire.

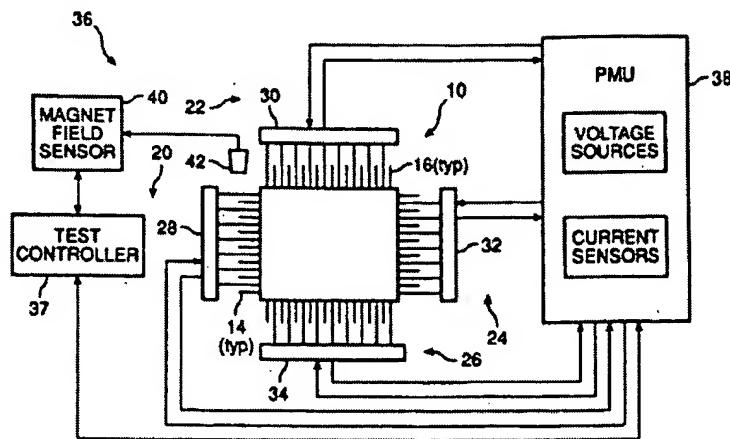
The invention finds a typical embodiment in claim 1:

1. An inspection method for a flat display device, comprising:
scanning signal wires by using a magnetic sensor along a scan direction crossing a plurality of the signal wires; and
detecting at least one of a short or an open circuit in the signal wires based on a current of the signal wires detected by the magnetic sensor.

Independent claims 5, 9 and 15 recite similar features.

Distinctions of the Invention over the Cited Art

Henley '754 pertains to a method and apparatus for testing an LCD panel ray using a magnetic fuel sensor. This technology is typified in Figure 2 of Henley '754 which is reproduced below.



In Henley '754, a controller 37 signals a magnetic sensor 40 to scan drive lines and gate lines. Attached to the magnetic sensor 40 is a magnetic field pickup device 42 which scans the lines. See Henley '754 at column 3, line 59 to column 4, line 6. This technology of Henley '754 is directed at determining magnetic field strengths to evaluate short circuit defects that are of different severity. See Henley '754 at column 4, lines 51-65.

Henley '754 fails to disclose or suggest the detection of current. The Examiner admits to this failure at page 3, lines 1-3 of the Office Action stating: "Henley ('754) does not specify that his magnetic sensor (40) detects current on the signal wires and the detection circuit (37) detects at least one of a short or an open circuit based on the current of the signal wires detected by the magnetic sensor (40)."

The Examiner then turns to Field '653. Field '653 pertains to a current sensor 16 formed from a core 22 and a coil 24 of electrical wire wound a number of times around the core 22. See Field at column 4, lines 54-66. That is, Field

'653 pertains to a "current sensor" that senses current in **amperes** as opposed to the "magnetic field pick-up device" of Henley '754, and magnetic fields are measured in **Gauss**.

As a result, one having ordinary skill in the art would have no motivation to turn to the teachings of Field '653, which pertains to current measurement, from studying the magnetic field measuring technology of Henley '754. A *prima facie* case of obviousness has therefore not been made over Henley '754 and Field '653.

The Examiner then turns to Henley '150 for teachings pertaining to the utilization of two power supplies. However, the two power supplies of Henley '150 fail to address the non-combinability of Henley '754 and Field. As a result, a *prima facie* case of obviousness has not been made over Henley '754, Field '653, and Henley '150.

Therefore, independent claims 1, 5, 9 and 15 are patentable over the cited art. Claims depending upon these independent claims are patentable for at least the above reasons. This rejection is overcome and withdrawal thereof is respectfully requested.

Allowable Subject Matter

The Examiner has allowed claims 19-22. The Examiner has acknowledged that claims 7 and 8 contain allowable subject matter.

Prior Art

The prior art cited but not utilized by the Examiner indicates the status of the conventional art that the invention supercedes. Additional remarks are accordingly not necessary.

Foreign Priority

The Examiner has acknowledged foreign priority in the Office Action mailed August 11, 2004.

The Drawings

The Examiner is respectfully requested to indicate whether the drawing figures are acceptable in the next official action.

Conclusion

All of the Examiner's rejections and objections have been successfully traversed or obviated. No issues remain. The Examiner is accordingly respectfully requested to allow the application.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Robert E. Goozner, Ph.D. (Reg. No. 42,593) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

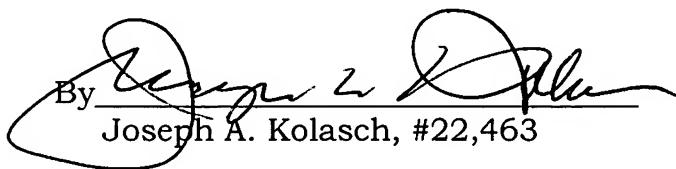
Amendment filed November 10, 2004
Response to Office Action mailed August 11, 2004

Appl. No. 10/670,373
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If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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